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An Inaugural Essay on Cynanche Trachealis.

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Prefatory Remarks

"Books, as affected are as men,
Pride often guides the author's pen".

In presenting this my thesis to the ordeal of criticism, and thereby subjecting myself to the strictures of justice and impartiality, it will be remembered by the gentle reader, that it is not voluntary on my part; not with a view of gaining for myself the appellation of an Author; nor with an expectation of receiving personal aggrandizement; but it is solely in compliance with the institutes of this University.

The world is already crowded with thousands of futile works, and culpable indeed would I consider myself for intruding or projecting into the notice of the literary part of it, a dissertation of my own, (which in their estimation must sink into comparative nothingness) were it not for reasons alleged above. With this assurance tis hoped the reader will make due allowance for imperfections, and pass over in silence what might justly be condemned in the forward, inflated author.

By perusing the subject of my selection, very little original matter will be discovered in it; but having paid

strict attention to the lectures of Professors Coxe and Chapman and having had frequent cases of Croup, I indulge myself with the hope of presenting a few practical remarks, that may prove usefully subservient to the medical enquirer. Thus encouraged, I hasten to the interesting and important subject, Cynanche Trachealis.

Cynanche Trachealis

Commences with a sense of chilness, succeeded by a hot skin, thirst, accelerated pulse, and other febrile affections, shortly after there is wheezing, with more or less dyspnoea. As the disease progresses, the breathing becomes more laborious, and is accompanied with a peculiar stridulous sound, which in speaking and coughing, resembles the crowing of a cock, or the barking of a big fat dog, with a cold. The sound is so very singular indeed, that when once heard, it can never be forgotten, and will of itself distinguish the disease from all others.

It occurs at any period from the age of six months, to that of six or seven years; after this it is seldom seen. It attacks those more frequently, who have short necks, who are robust and fat, who have sandy or red hair, and boys, more frequently than girls. Children once afflicted with it, are very liable to a relapse, and this I presume is one chief cause making it peculiar to some families. It occurs more often in those families residing near the sea, than among the inhabitants of the midland counties. It manifestly arises

in most instances from a changeable, or cold humid atmosphere, and hence is more prevalent in the spring and Autumn. Notwithstanding, however, it appears as an epidemic in some seasons, without any apparent dependence on the state of the weather; and this it is believed was the case in the vicinity of Alexandria, Virg.a in the year 1799, the period at which Gen.l Washington bowed and acknowledged its supremacy.

Until the middle of the last century, this complaint was not known, or particularly described by any person. At this period however, Dr. Home the friend and cotemporary of Dr. Cullen, gave a distinct account of it; since the publication of which, many elaborate essays have appeared, and not a little controversy has taken place, relative to its nature; some contending that it is a spasmodic, and others an inflammatory disease.

As for myself, I am decidedly of the opinion, that when it attacks suddenly, and death promptly supervenes, it must depend on spasm. The symptoms correspond with this view of its pathology, and dissections most unequivocally confirm it: for we find none of the phenomena of inflammation in such cases.

Notwithstanding this is sometimes the case yet I am induced to believe that it more frequently partakes of the nature of inflamation, solely or conjoined with spasm: from the slow progress of the disease and from it not infrequently arising in the consequence of Gyrambe Tumultuous, Laryngeae &c extending into the trachea.* As no practical difference of any moment could be deduced from the distinction I shall not therefore debate, but proceed to the further consideration of the complaint.

By some the disease has been considered contagious but I think there is not the least foundation for the supposition. Agitated by cold which is its most frequent cause it will in some instances pervade whole neighbourhoods and cities in great profusion assuming evidently the most prominent characteristics of an epidemic as above intimated. At another point it is peculiarly circumscribed. Originating within the precincts of a city, the gloomy recesses of a monastery, or in a neighbourhood, it will desolate those places, without affecting the inhabitants in the circumjacent country: proving most satisfactorily, that it is not propagated by contagion. Professor Chapman remarks, that it has occurred in Twang which is but one mile from

* Cullen, Pract. Med. [illegible]

Edinburgh, while the latter place and country around remained unmolested. A similar fact is also stated to have been the case at Fells Point near Baltimore; all of which corroborate the above remarks.

Upon inspecting the bodies of those who have fallen victims to the disease we find not a vestige of inflammation, if spasm has been the cause but if dependent upon the former the trachea bronchiæ as well as ramifications, and in some instances the lungs* exhibit such appearances as might have been anticipated from the violence and protraction of the complaint. The trachea is inflamed and lined with a mucid matter resembling that ejected by coughing or vomiting. In some cases however it loses its fluidity assuming rather a degree of tenacity.* This is the membranous like concretion or preternatural membrane of which Cullen writes, and says so constantly appears. In this statement he has displayed more fairness to his illustrious brethren; for Dr Physick, Dr Chapman and many others will have made repeated inspections, before

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* [illegible]

[illegible]
[illegible] of the trachea [illegible]
[illegible] of the disease [illegible]
[illegible] attended [illegible]
[illegible]
[illegible] dark [illegible] red blood or pus into
the cells [illegible] specimen of Peripneumonia
Notha described."

That effusion or suppuration has taken place, we may be apprised from the sudden and considerable remission of pain, from the wheezing or gurgling kind of noise in respiration, from the haggard dejected countenance, from the feebleness and increased frequency of the pulse, from the abatement of the febrile symptoms generally; whilst on the contrary respiration becomes more difficult and laborious every moment.

The prognostics of this disease are to be formed from the preceding remarks as well as those contained in the sequel. but in all cases the Young Physician must guard against being premature for a mistake of this kind will be ascribed by the parents or relations of the patient, to ignorance which

'excuse no man'

The danger in many subjects particularly is denoted by the difficulty of breathing. When the patient is restless in every position, when he throws his head back as if to prevent suffocation, when after having been much prolonged, his eyes recede into their orbits, when they rapidly become fixed with dilated pupils, when the difficult breathing is attended with a flushed or bloated face, when the pulse becomes quick, feeble and irregular, look on all of these circumstances, and the great advancement of the patient towards

A diminution of the dyspnoea, hoarseness and floating of the face, a soft pulse reduced in force and frequency, expectoration without violent, or continued coughing,* and above all a restoration of the stomach to its natural susceptibility, indicate a favorable termination of the disease.

From the rare and the gravity of the patient by the complaint under consideration we can proceed to the manage-

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* Cullen says page 241 that the decay frequently ends without any expectoration or with pus, as also does Ashburner, Patient with Pleural effusion has been shown of the nature of the complaint.

and fill a considerable degree of confidence and with it that reluctance, or hesitation, which would necessarily arise from a ignorance of it

Lastly, the commencement of the disease with the symptoms are not than very urgent and as it may depend on spasm I would exhibit an ounce of a solution of tartarized antimony or Dr. Lee's celebrated hiccup,* which will still if the warm bath and a brisk mercurial purge will almost always in this stage effect a cure. If this or the emetic not immediately afford a cessation of the operation and the use of the other means already mentioned the disease recur I would bleed again, repeat the emetic &c and immerse the patient in the bath again, and again. The disease will generally yield at last to this treatment, or suffer a very considerable remission; but here I would observe from the emphatic remarks of Dr. Lee as well as from my own experience that whatever may be the indication of the complaint the attending physician will always by remaining a few hours, sometimes moments

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* See his Anacoma Dispensatory.

consult the safety and ensure the recovery of his patient as well as his own reputation, which is the magnum bonum, or "pearl of great price" to the man of feeling and refinement: for it is to be remembered, that, of all diseases this is the most insidious with which we have to contend, and one of the most refractory in the event of a recurrence.

After having subdued or lost the disease which is known by a removal of spasm or a free expectoration relief from pain cough &c I would administer the tartarized antimony in nauseating doses, as recommended by Dr Chapman, with a view of keeping down arterial action, to equalize the circulation, and obviate a relapse. To the fever and from much experience in cases of croup I would give large and repeated doses of digitalis* either alone or in the form of a vinegar of squill, which would serve as an excellent vehicle, and be pleasant to the child. Tartarus emetic or ipecac. the calomel the pediluvium should never be omitted. The patient must be clothed in flannel and allowed to stay in the antiphlogistic

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* I do not suppose the reader will be very much prejudiced.

regimen. His diet may consist of boiled rice and molasses, barley crackers and raisins currant and calf's foot jellies &c. For drink he may have small beer lemonade flax seed tea bran tea &c. &c

The credit of giving Mercury in this disease particularly is due to our lamented, our departed but immortal Rush, upon whom common rebate it has been liberally used and by some labouring, not using the suggestion, solely relied upon in the treatment of this very frequent and formidable complaint.

Dr Hamilton Professor of Midwifery in the University of Edinburgh is one who has relied upon this herculean medicine with so much confidence; and appeals that in every case where he administered it, previous to the occurrence of livedness of the lips, and other, mortal* symptoms, he has completely cured the disease.

With all necessary deference to the Professor I have

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*This is not always a mortal symptom; for we see it every day in consequence of children suffocating the breath in crying.

in hesitating in saying that his statement is false and for the most obvious reasons: first because Cullen has said that the membrane of which I have spoken, almost constantly appears upon opening the bodies of those who died with the disease lining the entire internal surface of the upper part of the trachea, and extending in the same manner downwards into some of its ramifications; proving, that the disease must have been more violent there in Edinburgh than it is with us; now if we cannot rely upon the mercury alone, who have the disease in a milder form, and as the relief we obtain in all cases depending on inflammation, is in proportion to the quantity of mucus or "filamentous matter" thrown off by means of emetics, the authors of which must be incorrect, and worse than that by the influence it might have upon the credulous as emanating from such a source might prove the means of an irreparable loss to many a "wedded female". Therefore however beneficial or efficient calomel may prove in its place we are not to consider it the terra firma or anchor upon which to repose or suspend the safety and well being of our patient.

Begging to be excused for this digression, hoping at

the same time that the consideration may be duly appreciated by every speculative practitioner. I shall proceed to the consideration or treatment of the second stage.

Closing the remarks on the early part of the disease, we come now to treat of that stage, which is the consequence of its original violence of some indiscretion in the management or neglecting to solicit the aid of a physician in due time.

The disease being divested of its "sheep clothing" or garb of dissimulation which it so lately wore now exhibits an aspect terrible, alarming;* and exposes the patient to the utmost jeopardy, from the danger of suffocation; which may be produced by spasm by a thickening of the parietes of the trachea if it is dependant on inflammation; which of course contracts its natural diameter, and finally by effusion.

In the commencement of an attack the patient is uneasy and fretful; has, more or less cough some difficulty of breathing which becomes more arduous and shrill; the eyes, which

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* The reader will excuse me for using metaphorical expressions as they are intended to impress upon his mind the illusive character of the disease.

at first were suffused in tears, are now inflamed, and more or less protruded the pulse which I think I can say with truth, is not always to be relied upon, is most generally quickened and bounding, and if the patient is not speedily and promptly relieved, he is hurried into the second stage or that which precedes suppuration or effusion into the lungs.

In this, we find all the foregoing symptoms greatly aggravated. The eyes are more protruded, the pupils dilated, the flushing which in some cases passes in quick succession from cheek to cheek, becomes fixed and obscure. The face is bloated the lips partake of the tumefaction and become livid — deglutition is performed with great difficulty. The dyspnoea is augmented the child heaves its little breast* with exquisite anguish, until at last, respiration being almost suspended it throws its head back, making kind of convulsive efforts in the agony to escape suffocation.

I began the treatment of the first stage with an emetic; but

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* Some Anatomists deny the possibility of dilating the thorax by inspiration. But I must differ from them as regards children at least. Benjamin Bell I think is one.

in this, I would bleed without delay in order to arrest the susceptibility of the stomach to the action of the emetic to pave the way for the introduction of other remedies and ascertain with more precision the true character and seat of the disease. This last consideration must always be attended to: for some cases apparently of the most desperate kind yield without much difficulty and vice versa. Previous to suppuration or effusion, we may bleed in many cases ad deliquium animi, for there are persons who by peculiarity of constitution faint on upon a small bleeding. This would prevent the drawing of so much blood as the case requires: but as the same persons are found to bear after bleeding better than the first, we are allowed to carry the second and subsequent venesections to such an extent as the symptoms may seem to demand. In pursuing the necessary course of evidence with the disease, we are not to be governed by the remarks of a spectator who will tell us probably that our remedy is worse than the disease: but by the age and vigour of the patient, as well as the activity of the disease, and the effects produced.

Whilst we detract blood from the general circulation

*we may apply leeches to the throat or cupping instruments to the back as recommended by most every author; but if I am not mistaken they may be dispensed with, without any inconvenience to the case by physicians, who will not in all probability be able to procure the former, and the latter almost every mother will object to. Besides I think that scarifying the gums of many young subjects, and opening one or more of the fontanels when the child is advanced to the age of two or more years, will, *ceteris paribus*, be productive of as much benefit.

During the flow of blood the patient may be put into the bath* and continued there, until there is a sense of syncope, or great relaxation of the system. There is now prescribed, may be of a strong solution of the bi sulph. zinc, in graduated doses, until vomiting is induced.

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*In the American Medical Recorder for October 1820, I observed a portable apparatus for tubbing by Dr. Bunchel of New York, pointing out the propriety of immersing the feet in warm water and drawing blood from them, in cases of spasms. Whether by revulsion there would be the most eligible parts to transfuse, cannot from experience say.

*This should be about 96 Degrees Fahrenheit.

After adopting these means, if vomiting or purging however did not ensue, I would immerse the patient again in the bath, and give the subnumriate of mercury in the greatest possible quantity as recommended by Dr Hopson, that is, six eight or ten times more than an ordinary dose. I would also apply a large blister to the throat or head, not do under these circumstances would prove highly beneficial. I say under these circumstances, because it is not to be resorted to immediately after the first bleeding as Thomas has other have recommended for it is evident that if the pulse is not sufficiently reduced in force and frequency, it will be injurious by the irritation it excites rendering the loss of blood of little or no avail but when febrile action is sufficiently excited it will prove an invaluable remedy and should be kept up during the continuance of the disease.

Violent and truly obstinate indeed must be the case that will not yield to this treatment but such is the sad unhappy fact that instances of the kind do frequently happen in this country, at least in the north western parts of Virginia, where the physician is remote from his patient or after having

been apparently subdued, they sometimes recur in his absence and before he can possibly return the child is hurried along the "avenue" to death.

When suffocation or syncope has taken place forming Suffumnoma blotha, in horrida forma, the lancet must be used with all great circumspection indeed. The effects produced must be attentively watched; the finger must be placed on the pulse during the flow of blood, and the system must never be debilitated by it so as not prevent reaction. The other remedies that I have proposed for the preceding stages are applicable to this, when properly moderated by the good sense of the attending Physician.

With a view to prevent suffocation, Thomas says, it would be right to open a vein, and inject a solution of tartarized antimony into it. Others have proposed the operation of tracheotomy.

With regard to the suggestion of Thomas, I presume few in this country would avail themselves of it as the most blood and inoffensive fluids injected into the veins, have proved instantly fatal. The other operation would not be

productive of any advantage for many reasons. The most important of which are, first the very rare appearance of that membrane, which it is the object of the surgeon to remove in performing the operation. Secondly supposing it did occur in all cases he could probably extract the diphtheritic part of it but could not remove the fluid portion which with the pressure opposing it is a great mass the respiration of the bronchiae: and of course would be thwarted or disappointed in this operation.

I believe that proper position in this stage will effect more than the knife can, or ever will do; and in all cases of croup should be attended to; for it lessens the determination of blood to the head and consequently protracts if it does not prevent suffocation.

I have now laid down the treatment as recommended by the best authors with little deviation, but as I think it not yet complete, or calculated to answer our purpose under all circumstances in the country. I will beg the indulgence of the reader whilst I state a case that occurred, near Charlestown Virginia, and make upon it a few personal remarks

Last September I was called to see a patient residing five miles from the above mentioned place; and as my Pocket Office was closed at the time, I was compelled to depend with such medicines as I could hastily procure. These consisted of two ounces of rum and six grains of calomel, one tube of jalap, a blistering plaster and lancet.

Upon entering the patients apartment, I found him labouring under the second stage of Croup, for I have taken the liberty to call it; or that preceding the effusion of matter into the lungs. He was very fat, and about two years old.

Without delay I opened a vein and took away five ounces of blood, knowing that I had few minutes to depend on which had a considerable effect upon the pulse though it did not produce syncope. I then put him into the bath and commenced with the wine.

Within two hours he lost three more ounces of blood was immersed again and again in the bath took all of his wine, the ipecacuanha was applied to his throat the cathartic given and injections of salt and water were

thus up the notion that all proved abortive for very soon after the fond lad is cleared he was suddenly laid off.

Query — would not an injection of the tobacco infusion or its fumes, have saved this patient's life, and might it not prove eminently useful in many instances of croup occurring in the country? The mighty a priori answer at once in the affirmative. There is not a more powerful anti-spasmodic in the vegetable kingdom, and it will at the same time evacuate the stomach and intestines having scarcely a wreck behind. The only objection that could possibly be alleged against it is that it is a dangerous remedy; but I would remark that this is as desperate a disease, and the judgement of the physician is as much exerted in bleeding properly as it would be to administer the last resort. I am aware of the unwelcome reception with which innovation meets, particularly when it comes from the pen of young men, and shall therefore leave the propriety of putting in practice the suggestion for time and experience to determine. The first is more than a thousand to one against the predictions of ages as they rattle along. The last is that

delicate test by which we ascertain their intrinsic value, enabling us to disseminate throughout the world, the blessings and comforts they may respectively afford.